



Charles D. Baker, Governor  
Karyn E. Polito, Lieutenant Governor  
Stephanie Pollack, Secretary & CEO  
Thomas J. Tinlin, Administrator



May 5, 2017

Dauphinis Concrete  
Mr. Chris Dauphinis  
President  
P.O. Box 461  
Sutton, MA 01590

Dear Sir,

The following cement concrete mix design submittals have been reviewed by this section and are approved as specified below, subject to performance at the plant, on the project or in the laboratory. Any changes will require new mix design submittals and trial batches.

**Approved Plant Location and Mix Design Sheet Identification No.:**

DAUPHINAIS CONCRETE - DOUGLAS, MA: 17-01-19-07-57-58

**Approved Cementitious & Mitigating Materials:**

C1: TYPE I / II LAFARGE - ST CONSTANT, QC | FA1: TYPE F HEADWATERS RESOURCES - SOMERSET, MA | SLAG: TYPE 120 LAFARGE NEWCEM - BALTIMORE, MD | SF: GRACE FORCE 10,000 D - CAMBRIDGE, MA

**Approved Aggregates:**

FINE1 PINE SAND AND GRAVEL - DOUGLAS, MA | 3/8"1 CUMBERLAND QUARRY - CUMBERLAND, RI | 3/4"1 CUMBERLAND QUARRY - CUMBERLAND, RI | 1.5"1 CUMBERLAND QUARRY - CUMBERLAND, RI

**Approved Admixtures:**

AD1 TYPE F W. R. GRACE - ADVA 140M | AD2 TYPE C260 W. R. GRACE - DAREX II AEA | AD3 TYPE C W. R. GRACE - DARASET 400 | AD4 TYPE F W. R. GRACE - EXP 950 | AD5 TYPE C W. R. GRACE - DCI S | AD6 TYPE B,D W. R. GRACE - RECOVER | AD7 TYPE S W. R. GRACE - DARAFILL CLSM

**Approved Mix Designs:**

- 1.) 3000 PSI | 3/4"1 | C1: 259 LBS. | SLAG: 259 LBS. | WATER: 31 GAL. | AD1: 35 OZ. | AD2: 1.3 OZ.
- 2.) 3500 PSI | 1.5"1 | C1: 268 LBS. | SLAG: 268 LBS. | WATER: 30 GAL. | AD1: 37.2 OZ. | AD2: 1.3 OZ.
- 3.) 4000 PSI | 3/8"1 | C1: 331 LBS. | SLAG: 331 LBS. | WATER: 36 GAL. | AD1: 46 OZ. | AD2: 2.3 OZ.
- 4.) 4000 PSI | 3/4"1 | C1: 329 LBS. | SLAG: 329 LBS. | WATER: 35 GAL. | AD1: 46 OZ. | AD2: 2 OZ.
- 5.) 4000 PSI | HP | 3/4"1 | C1: 293 LBS. | SLAG: 257 LBS. | SF: 35 LBS. | WATER: 28 GAL. | AD2: 5.5 OZ. | AD4: 25 OZ. | AD5: 384 OZ. | AD6: 11 OZ.

Five Macadam Road, Hopkinton, MA 01748  
Tel: 857-368-3400

- 6.) 4000 PSI | 1.5"1 | C1: 303 LBS. | SLAG: 303 LBS. | WATER: 33 GAL. | AD1: 42 OZ. | AD2: 1.5 OZ.
- 7.) 5000 PSI | 3/4"1 | C1: 353 LBS. | SLAG: 353 LBS. | WATER: 34 GAL. | AD1: 49.4 OZ. | AD2: 2.1 OZ.
- 8.) 5000 PSI | HP | 3/8"1 | C1: 358 LBS. | SLAG: 315 LBS. | SF: 43 LBS. | WATER: 35 GAL. | AD2: 6.5 OZ. | AD4: 30 OZ. | AD5: 384 OZ. | AD6: 14 OZ.
- 9.) 5000 PSI | HP | 3/4"1 | C1: 343 LBS. | SLAG: 301 LBS. | SF: 43 LBS. | WATER: 33 GAL. | AD2: 6 OZ. | AD4: 29 OZ. | AD5: 384 OZ. | AD6: 13 OZ.
- 10.) 3000 PSI | 3/4"1 | C1: 414 LBS. | FA1 OR FA2: 103 LBS. | WATER: 31 GAL. | AD1: 35 OZ. | AD2: 1.3 OZ.
- 11.) 3500 PSI | 1.5"1 | C1: 428 LBS. | FA1 OR FA2: 107 LBS. | WATER: 30 GAL. | AD1: 37 OZ. | AD2: 1.3 OZ.
- 12.) 4000 PSI | 3/8"1 | C1: 529 LBS. | FA1 OR FA2: 132 LBS. | WATER: 35 GAL. | AD1: 46 OZ. | AD2: 2.3 OZ.
- 13.) 4000 PSI | 3/4"1 | C1: 526 LBS. | FA1 OR FA2: 132 LBS. | WATER: 35 GAL. | AD1: 46 OZ. | AD2: 2.1 OZ.
- 14.) 4000 PSI | HP | 3/4"1 | C1: 468 LBS. | FA1 OR FA2: 82 LBS. | SF: 35 LBS. | WATER: 28 GAL. | AD2: 1.4 OZ. | AD4: 25 OZ. | AD5: 384 OZ. | AD6: 11 OZ.
- 15.) 4000 PSI | 1.5"1 | C1: 484 LBS. | FA1 OR FA2: 121 LBS. | WATER: 33 GAL. | AD1: 42 OZ. | AD2: 2 OZ.
- 16.) 5000 PSI | 3/4"1 | C1: 564 LBS. | FA1 OR FA2: 141 LBS. | WATER: 34 GAL. | AD1: 49.4 OZ. | AD2: 4 OZ.
- 17.) 5000 PSI | HP | 3/8"1 | C1: 572 LBS. | FA1 OR FA2: 100 LBS. | SF: 43 LBS. | WATER: 35 GAL. | AD2: 6.5 OZ. | AD4: 30 OZ. | AD5: 384 OZ. | AD6: 14 OZ.
- 18.) 5000 PSI | HP | 3/4"1 | C1: 548 LBS. | FA1 OR FA2: 96 LBS. | SF: 43 LBS. | WATER: 33 GAL. | AD2: 6 OZ. | AD4: 29 OZ. | AD5: 384 OZ. | AD6: 13 OZ.
- 19.) | CDF | C1: 80 LBS. | WATER: 35 GAL. | AD7: 1 OZ.
- 20.) | CDF | C1: 200 LBS. | WATER: 35 GAL. | AD7: 1 OZ.

Sincerely,



John E. Grieco, P.E.

Director of Research and Materials

RFM/tw/wk *ik*

Attachments

C: District 3 Materials Engineer

R&M Job File



# 2017 CEMENT CONCRETE MIX DESIGN SHEET

RMS 043

Rev. 12/13/2016

PLANT INFORMATION		CITY/TOWN, XX				MAILING ADDRESS				STREET NO. & ADDRESS				CITY/TOWN, XX				EMAIL ADDRESS				CONTRACT				MIX SHEET IDENTIFICATION												
DAUPHINIS CONCRETE		DOUGLAS, MA				DOUGLAS, MA				P.O. Box 481				Sutton, MA 01590				chris@dauphinisconcrete.com				17-01-19-07-57-58																
ID	SOURCE	AGGREGATE SOURCES				CEMENTITIOUS & MITIGATING MATERIALS SOURCES				ADMITTURE SOURCES				TYPE	OCML	TYPE	OCML																					
		SIZE	3/4"	1 1/2"	1 1/2"	3/4"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"					1 1/2"	1 1/2"	1 1/2"	1 1/2"																	
SIZE	1 1/2"	3/4"	1 1/2"	1 1/2"	3/4"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"									
FINE		100	95-100	45-80																																		
FINE1		100	50	76																																		
FINE2																																						
3/8"		100	85-100	10-30	0-10	0-5																																
3/8LW		100	80-100	5-40	0-20	0-10																																
3/8"		100	91	19	2	2																																
3/8-2																																						
PSI																																						
3000		1313	810	438	1365	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364				
3500		810	180	180	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364	1364			
4000		180	1650	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189	1189		
4000		1313	1145	438	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145	1145		
4000	HP	1200	540	540	1234	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293	293		
4000		1200	810	180	1250	810	810	810	810	810	810	810	810	810	810	810	810	810	810	810	810	810	810	810	810	810	810	810	810	810	810	810	810	810	810	810	810	
5000		1313	438	438	1141	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	353	
5000	HP	1230	1145	1650	1145	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	358	
5000	HP	1230	540	540	1102	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	343	
3000		1313	438	438	1357	414	414	414	414	414	414	414	414	414	414	414	414	414	414	414	414	414	414	414	414	414	414	414	414	414	414	414	414	414	414	414	414	
3500		810	180	180	1357	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	428	
4000		1650	1178	1178	1178	529	529	529	529	529	529	529	529	529	529	529	529	529	529	529	529	529	529	529	529	529	529	529	529	529	529	529	529	529	529	529	529	
4000		1313	438	438	1135	526	526	526	526	526	526	526	526	526	526	526	526	526	526	526	526	526	526	526	526	526	526	526	526	526	526	526	526	526	526	526	526	
4000	HP	1230	540	540	1231	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	468	
4000		810	160	160	1241	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	484	
5000		1313	438	438	1131	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	564	
5000	HP	1650	1142	1142	1142	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	572	
5000	HP	1230	540	540	1099	548	548	548	548	548	548	548	548	548	548	548	548	548	548	548	548	548	548	548	548	548	548	548	548	548	548	548	548	548	548	548	548	
	PDF		2470	2470	2470	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80		
	PDF		2596	2596	2596	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	

We agree to furnish mixes to MassDOT projects that are produced from only the referenced materials listed on the RMS 043 Cement Concrete Mix Design Sheet. We also understand that designs are to be submitted annually, prior to production for state work, and any subsequent change in materials or design will require resubmission for approval.

Mr. Chris Dauphinais  
NAME

President  
TITLE

*Chris Dauphinais*  
AUTHORIZED SIGNATURE

1/13/2017  
DATE